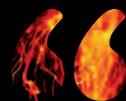


Chemistry Admissions

Feb 2010 NEWSLETTER

Exciting news

We hope that this newsletter will help you to get a sense of the excitement and enthusiasm that we all share at York for Chemistry. In recent years the Chemistry Department has consolidated its position as one of the UK's leading university departments. Our research was extremely highly rated in the most recent Research Assessment Exercise (December 2008) and in the 2009 National Student Survey, the Department was once again rated in the **top 8** of UK Chemistry Departments for overall student satisfaction. The *Times* league table (for 2010 entry) ranks the Department **5th** in the UK, whilst the *Guardian* and *Independent* both place us **8th**.



"I have enjoyed the topics covered, and the amount of contact time is definitely value for money"

Year 1 MChem Student

If you would like to find out any more information about the Department, you are welcome to contact us, or best of all come and visit us. The main University campus is only ten minutes by bike from the city centre. York is a friendly city, famed for its pubs, bars and restaurants, and has a thriving café culture. Beyond the City of York lies some of Britain's most attractive and impressive countryside with a great many places of natural beauty and historic interest. If you are able to visit the Department, you can be assured of a warm welcome.



Dr Andrew Parsons
Undergraduate Admissions Tutor,
Deputy Head of Department

Katrina Sayer
Undergraduate Admissions Officer

Research at York: NMR and the Centre for Magnetic Resonance

Nuclear magnetic resonance (NMR) spectroscopy is an extremely useful analytical technique for determining the structure of a molecule. For example, to determine the structure of an organic molecule, ^1H and ^{13}C NMR is commonly used as this provides information on the carbon-hydrogen framework.



The Centre for Magnetic Resonance

NMR spectroscopy is a major area of research at York and the Department has recently established a Centre for Magnetic Resonance, costing £3.5 million. The majority of our NMR spectrometers, which includes a Bruker 700 MHz instrument, are now housed in a new laboratory that supports a wide range of research projects. For example, we use NMR spectroscopy in our organic and inorganic research, and in studying chemical problems in biology. We also have a Bruker 300 AMX spectrometer in our undergraduate teaching laboratory to support our practical courses. Our undergraduate students learn of modern NMR methods through our lecture course programme and they can get hands on experience of using our NMR instruments during their final year research projects.



MRI scanners are used to build up a picture of the inside of the body

Recently, Professor Simon Duckett has initiated a research programme to extend our use of NMR spectroscopy to neuroimaging. In collaboration with a number of other Departments at York, in 2005, the York Neuroimaging Centre was established, which aims to better understand the chemistry, physiology and psychology of human brain function. Research at York has developed a new, more sensitive NMR technique to explore chemical processes within the body.

This technique has the potential to produce images of the brain much more quickly than is currently available, which could find use in MRI scanners in hospitals.

Major New Funding for Undergraduate Teaching

The University has recently committed an investment of £1 million towards a programme of refurbishment works in the Department of Chemistry. As part of this programme, we have recently introduced an additional 18 new fumehoods in our undergraduate teaching laboratory. This brings the number of 2–3 person fumehoods in our teaching laboratory to over 50. Fumehoods are one of the most important pieces of protective equipment in a Chemistry laboratory as they are designed to protect users against hazards from toxic or obnoxious material by dragging a flow of air away from the user.



Come and visit us

Our visit days offer an excellent opportunity to find out about the University of York. Most importantly, you'll be able to get a 'feel' for the University, which will help you decide whether or not York is somewhere you'd like to spend your university years.

2010 August Visit Days

During August we will be holding a series of Departmental Open Afternoons for prospective chemistry students. These will be held on **4, 11, 18 and 24 August**.

The visit day will involve a free lunch for all guests, a tour of the department's teaching and laboratory facilities, a campus tour, an opportunity to chat informally to members of staff, as well as opportunities to meet our current students and talk to them about what it is like to live and study at York.

Further details including how to book a place can be found on the York website: www.york.ac.uk/depts/chem/ugrad/openaft.htm

2010 University Open Days

The university will be holding Open Days on **Wednesday 7 July** and **Tuesday 5 October**, for further details including booking: www.york.ac.uk/admin/uao/openday/

We have organised a number of talks in the Chemistry Department during the day and you will also have the opportunity to have a tour of our teaching and research laboratories. Members of the admissions team and current undergraduate Chemistry students will also be on hand.

Our Open Days in 2009 were extremely well attended and we received some excellent feedback from visiting students and their parents, including:

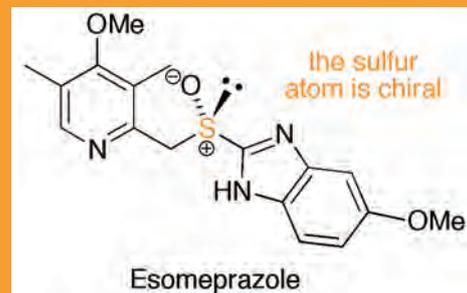
"I visited the Chemistry Department at York both for an open day prior to applying and again for an interview when I was offered a place. I was impressed by the enthusiasm and friendliness of the staff, the facilities and the content of the course"

Student visitor (2009)

These open days are primarily for prospective undergraduate students, but the Chemistry Department organises a Postgraduate Open Day in the Autumn Term (for further details contact: chemgrad@york.ac.uk)

A Blockbuster Practical

To show our students the relevance of practical chemistry and to give them an insight into modern industrial chemistry, we have completed a project with AstraZeneca (AZ) to develop a new context-based practical for our third year MChem students. Students are introduced to the excitement and challenges of process development chemistry by working as a team to prepare an anti-ulcer 'blockbuster' medicine called esomeprazole. Following an introductory presentation by an AZ chemist, the students carry out a series of experiments (under conditions of their own choice) and then summarise their results in individual research-style reports, the results of which are reviewed (and compared with the current industrial process) by an AZ chemist in a final presentation. The practical gives students the opportunity to improve their critical thinking, time management and problem solving skills, and they can learn more about careers in the chemical industry. An article promoting this practical activity to the teaching community will soon be published in *Education in Chemistry*, a magazine produced by the Royal Society of Chemistry.



"The practical is a fine example of industry and academia working together for a common goal: to produce world-class chemistry graduates."

Dr Steven Raw, Principal Chemist (AstraZeneca)

Virtual Learning

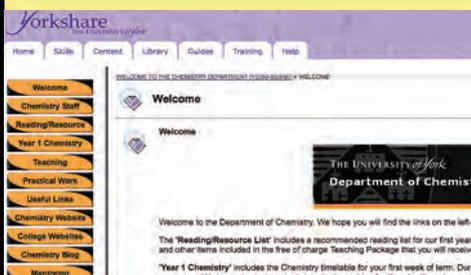
Use of the VLE and our Practical Course

Last year, the Department obtained just under £10,000 to kick-start an ambitious project to develop on-line resources to support the teaching of introductory skills in practical chemistry. Our new facilities include state-of-the-art video hardware and software that we have used to record short clips that illustrate key laboratory procedures. These materials focus on helping our new students adapt to the demands of a university practical course. The materials are accessible through the university's "virtual learning environment" so that they can be reviewed anytime, such as in advance of, during and after laboratory sessions. To view a representative clip see: www.york.ac.uk/chemistry/undergraduate/teaching/laboratory/

"Excellent videos – thoroughly explained the experimental procedure"

"A very useful reference guide, especially as I had not used some of the equipment before"
(Year 1 students)

VLE and New Starters



After confirmation in August all new starters will receive details about enrolling on line. After you have enrolled you will then be able to access the Chemistry VLE (Virtual Learning Environment) site for new starters. This will contain lots of information about colleges, chemistry staff, a 'blog' for new starters, a reading list, short videos related to our practical course along with other useful pieces of information to help you prepare for your studies. We will write to you in the summer giving details of how to access the VLE.

Another Teaching Award

Dr Seishi Shimizu has been awarded a Vice-Chancellor's Teaching Award for 2009/10. Following Dr Jason Lynam, Dr Andrew Parsons and Professor David Smith, Seishi is the fourth member of the Department of Chemistry to win an individual award, which recognises and rewards excellence in teaching at York. Seishi gives lectures, tutorials and workshops to chemists and biochemists in the department, and he has developed very effective approaches for bringing state-of-the-art research into his undergraduate teaching.

Frequently Answered Questions on Admissions

Here are answers to a selection of popular questions, relating to undergraduate admissions, which appear in our FAQs section on the web (www.york.ac.uk/chemistry/undergraduate/faqs/)

Should I do an MChem or a BSc degree course?

In making the choice between BSc (3-Year) and MChem (4-Year), you need to consider how useful the additional MChem year will be in preparing you for your likely career, and whether it provides experiences and challenges that will be interesting and worthwhile. Students who take the MChem courses are generally aiming for a scientific career, whereas students taking the BSc may be interested in a variety of possibilities, for example teaching. Our course is designed to be flexible, so that you can transfer between MChem and BSc courses at any time during the first two years.

On the course, what feedback will I get?

We pride ourselves on delivering useful written and verbal feedback to all of our students. Whenever you complete and hand-in a written piece of work, you will receive feedback on its good and bad points, and guidance on how you can improve further. In some cases, this work will be assessed towards your degree mark (e.g. examinations, practical work and assessed workshops), whereas in other cases the work, and feedback on it, is primarily intended to assist your own personal development (e.g. for tutorials and workshops, each week, written work is marked and returned giving our students prompt feedback on performance and understanding).

Who monitors my progress during my degree?

The Board of Studies in Chemistry is responsible for monitoring the progress of all of our students. However, at the beginning of your degree, you will be assigned a supervisor who will be a member of academic staff within the Department of Chemistry. Your supervisor will monitor your progress and

provide you with advice, encouragement and support as may be necessary. You will meet with your supervisor at the beginning and end of each term (reports on your tutorial and workshop activities are sent to your supervisor by your tutors), and occasionally within each term, to receive and discuss your examination or coursework marks. Our students are encouraged to turn to their supervisor if they have difficulties that may affect their academic work or enjoyment of University life.

Will I have to attend an interview?

For applicants who are based in the UK, we make it a policy always to interview applicants before we make them an offer of a place. The interview day is not only aimed at finding out more about you, it is very much an opportunity for you to see the Department, the teaching facilities we have to offer, meet members of staff and see the campus.

Do I choose which college to be in?

The Department of Chemistry is unique at York in that Chemistry students are taught in college groups for the small-group teaching sessions (weekly tutorials and workshops). All teaching takes place within the Department of Chemistry. Most students will live in the same college as their teaching group. Prior to applying for accommodation we write to students asking them for their college accommodation preferences (to help you select your accommodation, you may find it useful to look at the college's accommodation website;

www.york.ac.uk/admin/accom/studying.htm)

and we use this information when assigning students to their college teaching group.

New Green Chemistry Laboratory

The world-leading Green Chemistry Centre of Excellence at the University of York, led by Prof. James Clark, has around 70 personnel working on many different aspects of Green Chemistry. The Centre works in the areas of research, industrial collaboration, education and networking with the aims of promoting the implementation of green and sustainable chemistry into new products and processes.

Following huge interest in green issues and sustainability the centre is going through a substantial expansion, including developing new laboratories. The new laboratory extension will continue the expansion of the Green Chemistry group through cutting edge laboratory facilities housing the latest equipment e.g. supercritical carbon dioxide, microwave, parallel synthesis technology for enabling research in our four platform areas:

- Biomaterials
- Clean Synthesis and Platform Molecules
- Biorefinery Microwave Demonstrator
- Centre for CO₂ Applications

These technologies will allow the Centre to further its research in the above technology platforms with the aim of switching to a bio based economy. This will be achieved via development of new carbon efficient sources of energy and green and sustainable supply chains for chemicals based on platform molecules and clean synthesis.

The Centre was awarded £200,000 for the laboratory development which was funded jointly by the Wolfson/Royal Society and the ERDF as part of the University's Heslington East development. For more information please visit: www.greenchemistry.net

"I thought there was going to be a major difference in work, teaching style and student life in general before I came and to some extent there was a difference. It was a really good change though; I found the work we covered was there to remind me and structured to get me used to the new teaching methods, and the support network within the department was brilliant if I ever needed help. Coming to university has been the best decision I've made, and I have had so much fun in the process."
Year 2 MChem Student

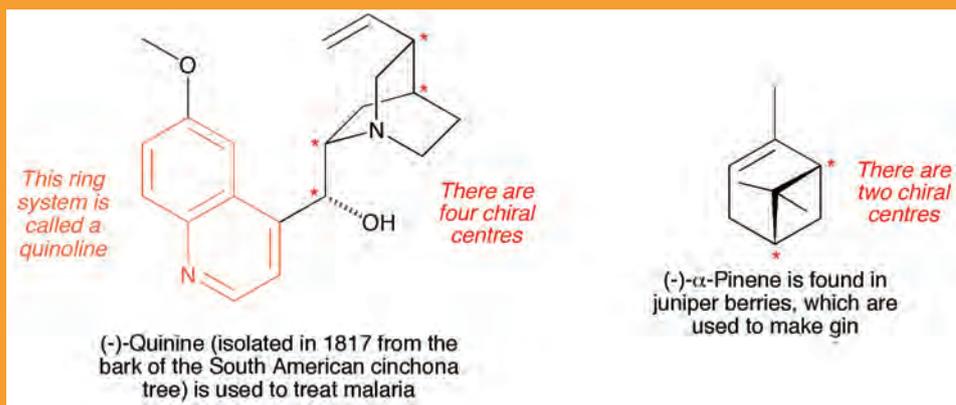


Goodricke College, on the new Heslington East development, was opened in October 2009.

Alcuin College comprises a number of separate buildings all located close to the Department of Chemistry.



Chemistry Podcasts



Professor David Smith has produced a series of Chemistry podcasts on amazing molecules, which can be viewed on YouTube. You can learn about how some important molecules were discovered and what they do, and for chemists, there are chemical problems and supporting teaching podcasts. These podcasts are used to support some of the organic chemistry taught in our Year 1 course, such as identifying functional groups and chiral centres. For example, the first podcast (www.youtube.com/watch?v=Eni5sc4xebk) looks at molecules in gin and tonic, such as the alkaloid (-)-quinine and the terpene (-)- α -pinene. This outreach activity will be showcased, along with other new initiatives in our Chemistry teaching (including projects in schools and use of the web to support our practical courses) at York's Annual Learning and Teaching Conference (2010)

Textbooks

The Department of Chemistry has an impressive history and a strong commitment to developing innovative chemical educational materials. For example, many of our academic members of staff have published university level Chemistry textbooks. Professor Paul Walton and Dr Andrew Parsons have written textbooks on *Beginning Group Theory for Chemistry* and *Keynotes in Organic Chemistry* respectively, while Professor David Smith has co-authored a textbook on *Supramolecular Chemistry*. As part of our Chemistry course, first year students undertake a maths skills course that is supported by textbooks called *Maths for Chemists (volumes 1 and 2)* written by Dr Martin Cockett and Dr Graham Doggett

(now retired). More recently, Dr Andrew Parsons has co-authored a new undergraduate textbook called *Chemistry³*, which has been adopted as the recommended textbook for the first year of our course.

Chemistry³

Introducing Inorganic, organic and physical chemistry



Refurbishment of our Teaching Facilities

The University has recently funded the refurbishment of our main teaching accommodation. Over the last few months our corridors, entrance area, some small group teaching rooms and offices have been redecorated and recarpeted.



Meet the Uni

Last July, the Department once again contributed to the annual **Meet the Universities** event in London. The event, organised by the RSC, is designed to be informal, offering potential students (and often their parents too) the opportunity to question university representatives at length about their courses and what they offer to students. It is not designed to replace the need for a visit to a university's own open day, but it can help students to narrow down their options in advance. The next event will be held on **Saturday 3 July 2010**, at the Royal Horticultural Halls in London, and if you are able to attend, we look forward to speaking with you about our Chemistry degree courses.



Student Finance

www.york.ac.uk/students/housing-and-money/financial-support/

The University's Student Financial Support Unit provides information on student funding and bursary entitlements and they will be able to help with any student financial queries that you may have.

Student Societies

www.yusu.org

York University Students' Union (YUSU) offers an array of societies covering a huge range of activities ranging from the Juggling Society to award-winning media societies.

Student Sports Clubs

www.yusu.org/au

With almost 60 clubs, York's sports scene is very diverse, facilities are cheap to use and sport is accessible to all.

University Library

www.york.ac.uk/library/libraryrefurbishment/

The JB Morrell Library is currently undergoing an extensive refurbishment programme which will be completed in 2011/12. Alongside improvements to lighting, heating and ventilation, new study areas will be provided.

Chemistry Review

www.york.ac.uk/chemistry/schools/chemrev/

Chemistry Review, a magazine for post-16 chemists is commissioned and edited at York. If you would like to contribute a Chemistry-related article please contact Dr Annie Hodgson (abh2@york.ac.uk).



Find out about the latest news in the department using twitter:

<http://twitter.com/chemistryatyork>

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